

Remarks

Applicant has carefully reviewed the application in light of the November 15, 2005 Office Action. For at least the reasons expressed below, Applicant submits that the claims are allowable in their current form.

Section 102 Rejections

The Examiner continues to assert a 35 U.S.C. § 102 rejection against claims 1-4, 7-10, and 12-13 based on U.S. Patent No. 6,272,401 issued to Boger et al. (“the ‘401 patent”). Office Action, pg. 2.¹ Applicant disagrees.

In regard to the independent claims – claims 1, 12, and 13, the Examiner appears to misinterpret Applicant’s argument regarding a key distinction between the ‘401 patent and the presently claimed inventive concept relating to obtaining valve information. The distinction is not when the valve information is obtained but what the valve information is obtained in response to.

In the ‘401 patent, the valve information is obtained by moving the valve through a special sequence of movements, and the information is analyzed in response to these movements. See, e.g., FIG. 8, steps 360-382; FIG. 9; col. 2, ll. 6-25; col. 10, ll. 55-67; col. 11, ll. 1-5; col. 11, ll. 45-64; col. 12, ll. 39-50; col. 13, ll. 27-30, 35-67; col. 14, ll. 1-2, 19-38. In particular, the data acquisition of the ‘401 patent relies on setting starting positions, movement ranges, and ending positions. See, e.g., col. 10, ll. 55-67; col. 12, ll. 39-50; col. 13, ll. 27-30, 35-67; col. 14, ll. 19-38. Thus, these movements are designed for gathering information about a valve and are not determined by the needs of the controlled process.

In the current independent claims of the application, however, the valve information may be obtained “while said valve operates in response to a plurality of setpoints determined for controlling said process.” That is, the valve information may be obtained while the valve is operating in response to the needs of the controlled process.

¹ The Examiner indicates that the § 102 rejection of claim 11 has been withdrawn. Office Action, pg. 4. Applicant thanks the Examiner for this finding.

This distinction of the presently claimed inventive concept over the '401 patent is important. While gathering the data in response to setpoints determined for controlling a process may provide greater efficiencies and safety, because, for example, the controlled process does not have to be disturbed, it may also make using the valve information to derive "at least one of step response, friction, and spring range for said valve" more difficult. In the '401 patent, the valve is moved through a set of positions that are predetermined to generate appropriate test results. The presently claimed inventive concept, however, uses whatever setpoints are needed for controlling the process. Thus, the information may be more difficult to obtain, correlate, and/or analyze.

For at least these reasons, Applicant submits that claims 1, 12, and 13 contain limitations that the '401 patent does not teach. Applicant therefore respectfully requests the Examiner to withdraw the § 102 rejection thereof.

Claims 2-4 and 7-10 depend from claim 1 and, hence, contain all of its limitations, which have already been shown to distinguish over the '401 patent. Claims 2-4 and 7-10 also contain additional limitations that distinguish over the '401 patent.

For example, claim 2 recites "deriving a model of valve response to setpoint changes in response to said valve information" and "applying a step input to said model to generate a step response." But in the '401 patent, the step response actually occurs and is physically measured. col. 14, ll. 19-44. The operations in claim 2, on the other hand, attempt to determine what the step response of the actual system would be by deriving a model and applying a step input to the model.

Applicant notes the Examiner's assertion that it is inherent that the step response test in the '401 patent includes the application of a step input to a model. Office Action, pg. 4. But Applicant submits that the Examiner's assertion is not accurate since the '401 patent teaches that the step response is of an actual system and an actual result is determined. col. 14, ll. 19-44. Moreover, the Examiner provides no reasoning for overriding the '401 patent's teaching.

With respect to claims 7, Applicant submits that the portion of the '401 patent cited by the Examiner (i.e., col. 14, ll. 9-18), Office Action, pg. 4, does not teach the following limitations of claim 7: (i) "deriving a distribution of said position data by transforming said pressure data and said position data in response to a spring range of said valve;" or (ii) "determining friction of

said valve in response to said distribution.” The ‘401 patent teaches taking the difference between two data sets to determine valve friction:

Also, the valve friction at a given position can be calculated by interpolating the pressure vs. position data sets. The friction is half the absolute value of the difference between the pressure determined from the pressure vs. position data set--increasing and the pressure vs. position data set--decreasing. The pressure vs. position data, the spring range data, and the friction data may be stored in the non-volatile memory 48, may be sent digitally to an external processor connected to the positioner 12, or may be graphically shown on the display 52.

col. 14, ll. 9-18. Thus, the ‘401 patent fails to teach “*deriving a distribution of said position data,*” does not teach deriving the distribution “*by transforming said pressure data and said position data,*” and does not teach deriving the distribution “*by transforming said pressure data and said position data in response to a spring range of said valve.*” Applicant submits therefore that the ‘401 patent does not teach all of the limitations of claim 7.

For at least the foregoing reasons, and for the reasons given with respect to claim 1, Applicant submits that claims 2-10 contain limitations not taught by the ‘401 patent. Applicant therefore respectfully requests that the Examiner withdraw the § 102 rejection thereof.

Clarification of Background

The Examiner asks for clarification of the exceptions to performing tests while a process is running. Office Action, pg. 3. One example of a system that performs tests while a process is running is described in the background. ¶ 7. Another exception is described in the ‘401 patent. Both of these techniques, however, require moving the valve away from the position determined for the process. Thus, neither teach the currently claimed concept.

Fischer Controls Documents

The Examiner requests that Applicant review the documents regarding “Fischer Controls Field Vue.” Office Action, pg. 4. While Applicant does not believe that it has a duty to review these without the Examiner lodging a specific rejection based on the documents, Applicant has

reviewed the documents as requested by the Examiner in order to facilitate prosecution.

Applicant submits that the claims are patentably distinct over the references because they do not pertain to "obtaining valve information while said valve operates in response to a plurality of setpoints determined for controlling said process, said valve operating through a series of gradual movements," "said valve information including at least two of setpoint data, position data and pressure data," and/or "deriving at least one of step response, friction and spring range for said valve based on said valve information."

Allowable Subject Matter

The Examiner continues to maintain that claims 5-6 would be allowable if rewritten in independent form. Office Action, pg. 6. Applicant thanks the Examiner for this finding.

The Examiner also indicates that there is no longer an art rejection of claim 11, Office Action, pg. 4, but finds that the claim would not be allowable if rewritten in independent form because it is directed at a "non-selectable element" of claim 1, Office Action, pg. 6. Applicant does not understand this rejection. If Applicant combines claim 11's operations (i.e., "deriving" and "selecting") with the limitations of claim 1, they would be part of the resultant claim and could not be disregarded. Applicant respectfully requests that the Examiner reconsider his position or provide reasoning supporting it.

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Conclusion

Applicant submits that a good faith effort has been made to advance the prosecution of this application and that the application is in condition for allowance. If, however, the Examiner thinks that a telephone conference may advance prosecution, Applicant requests that the Examiner contact the below-listed attorney.

Applicant does not believe that any adjustment in fees is required by this paper. If, however, Applicant is mistaken, please apply any charges or credits to deposit account 06-1050, with reference to the above attorney docket number.

Respectfully submitted,

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